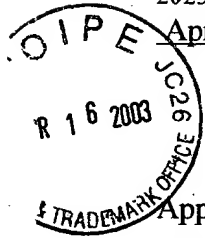


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Shan
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April 11, 2003 Dominique Valentino Dominique Valentino 4-11-03
Date Mailed Name Signature Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Jun Shan Wey et al
Serial No.: 09/876,535
Filed: June 6, 2001
For: MODE SCRAMBLER
Docket No.: 004524.P030

Examiner: Jean F. DuVerne
Art Unit: 2839

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Box Non-Fee Amendment
Assistant Commissioner for Patents
Washington, DC 20231

RESPONSE A (37 C.F.R. § 1.111)

Sir:

This communication is submitted in response to the Office Action mailed January 15, 2003, for the above-noted patent application. No claims are amended herein, and claims 1-16 remain pending in the application. Applicants respectfully request reconsideration of the application in view of the following remarks.

Rejections Under 35 U.S.C. § 102

The Examiner rejected claims 1 and 9 as anticipated under 35 U.S.C. § 102(b) by Japanese Patent No. 61233706 A to Nakajima et al ("Nakajima"). According to the Examiner, Nakajima discloses a mode scrambler comprising a first and second end wherein a single mode optical fiber at 42 is coupled to the first end and a multi-mode optical fiber at 44 is coupled to the second end, and a diffuser 14 places in a gap between the single mode and multi-mode optical fibers. In connection with claim 9, the Examiner concedes that Nakajima's device does not disclose the recited method to scramble an optical signal. The Examiner asserts, however, that the features recited in the method claim are identical to the limitations in the apparatus claim (claim 1), and that the method to scramble an optical signal is not germane to the issue of patentability of the device itself, but rather is considered an inherent feature. The Examiner has therefore not given the limitation any patentable weight.

Applicants respectfully traverse the Examiner's rejections. A claim is anticipated only if each and every element, as set forth in the claim, is found in a single prior-art reference. MPEP § 2131; *Verdegaal Bros. v. Union Oil of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). As further explained below, Nakajima cannot anticipate these claims because it does not disclose every element and limitation recited therein.

First, based upon the reference numerals the Examiner alleges correspond to the elements in the claims, the Examiner appears to be relying on Figure 4 of Nakajima. The English abstract of Nakajima describes only what is found in figure 1, not figure 4. Without any written description of figure 4, the Examiner relies solely on the drawing of figure 4 for the rejection. Drawings and pictures can anticipate claims if they clearly show the claimed structure. MPEP § 2125; *In re Mraz*, 455 F.2d 1069 (CCPA 1972). However, the picture must show all the claimed structural features and how they are put together. MPEP § 2125; *Jockmus v. Leviton*, 28 F.2d 812 (2d Cir. 1928). Figure 4 of Nakajima shows only a "black box" 40 with an input and various outputs. There is no disclosure, teaching or even suggestion of the structural features of the "black box" 40, of how any structural features are put together, or of what function it performs. Similarly, there is no disclosure, teaching or suggestion regarding the structural features, assembly, or exact function of the input and outputs. Applicants therefore respectfully submit that Figure 4 of Nakajima cannot anticipate any of the present claims.

Second, in figure 1 Nakajima discloses a fiber optic bundle made by connecting in cascade one primary branch bundle consisting of step index type optical fibers and a secondary branch bundle consisting of a like number of fibers. The primary branch bundle 16 consists of step index type optical fibers and the secondary branch bundle 24 consisting of fibers as many as said branch fibers are connected together, and the primary branch bundle 16 consists of the optical fibers 18 which are larger in core diameter than the fibers 26 constituting the secondary branch bundle 24. The gap delta between tips of plugs 22 and 28 is adjustable in a branch adapter 32. A mode scrambler 20 comprising a fiber loop is formed in the middle of each fiber 18. Further, a diffusion plate 14 is provided on the convergence side of the primary branch bundle 16.

Claim 1 recites a mode scrambler comprising, among other things, "an optical fiber adapter having a gap, a first end, and a second end, wherein a single mode optical fiber is coupled to the first end and a multimode optical fiber is coupled to the second end," and "a

diffuser disposed in the gap.” Nakajima does not disclose, teach or suggest these limitations. Although it mentions a mode scrambler, Nakajima does not disclose, teach or suggest any particular construction of a mode scrambler. Instead, Nakajima discloses the joining of two fiber bundles using plugs 22 and 28 inserted into a branch adapter 32. The diffusion plate 14 of Nakajima is positioned on the convergence side of the primary bundle 18, and there is no disclosure, teaching or suggestion that the diffusion plate is, could be, or should be positioned at any other location, such as at or near the interface of the fiber bundles. Moreover, Nakajima discloses that the fibers 18 in the primary bundle 16 have a larger core diameter than the fibers 26 in the secondary bundle, meaning that both fiber bundles must comprise only multi-mode fibers. Nakajima therefore cannot disclose a mode scrambler comprising “an optical fiber adapter having a gap, a first end, and a second end, wherein a single mode optical fiber is coupled to the first end and a multimode optical fiber is coupled to the second end,” and “a diffuser disposed in the gap.” Applicants thus submit that Nakajima cannot anticipate claim 1, and respectfully request withdrawal of the rejection.

Claim 9 recites a method to scramble an optical signal comprising “disposing a diffuser between mating ends of an optical fiber adapter having a single mode end and a multimode end,” “launching a single mode signal in the single mode end,” and “receiving a multimode optical signal in the multimode end.” The Examiner concedes that Nakajima does not disclose the recited method to scramble an optical signal, but asserts that the features recited in the method claim are identical to the limitations in claim 1, and that the method to scramble an optical signal is not germane to the issue of patentability of the device itself, but rather is considered an inherent feature. As discussed above in connection with claim 1, Nakajima does not disclose, teach or suggest any of the elements or limitations recited in claim 1. Nakajima therefore cannot disclose, teach or suggest the method recited in claim 9. Applicants thus submit that Nakajima cannot anticipate claim 9, and respectfully request withdrawal of the rejection.

Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 2-8 and 10-16 under 35 U.S.C. § 103(a) as obvious in view of, and therefore unpatentable over, Nakajima. Applicant respectfully traverses the Examiner’s rejections. If an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is also non-obvious. MPEP § 2143.03; *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). As discussed above, claims 1 and 9 are in condition for allowance. Applicant therefore

respectfully submits that claims 2-8 are allowable by virtue of their dependence on allowable claim 1 and by virtue of the features recited therein. Similarly, claims 10-16 are allowable by virtue of their dependence on allowable claim 9 and by virtue of the features cited therein. Applicant therefore respectfully requests withdrawal of the rejections and allowance of these claims.

Conclusion

Given the above remarks, Applicants respectfully submit that independent claims 1 and 9 are in condition for allowance. The dependent claims that depend directly or indirectly on these independent claims are likewise allowable based on at least the same reasons and based on the recitations contained in each dependent claim.

If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to allowance of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 292-8600.

Charge Deposit Account

Please charge our Deposit Account No. 02-2666 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: 4-11-03

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Response transmittal (in duplicate)



2839

Attorney's Docket No.: 004524.P030

Patent

In re the Application of: Jun Shan Wey et al.
(inventor(s))

Application No.: 09/876,535

Filed: June 6, 2001

For: MODE SCRAMBLER

(title)

ASSISTANT COMMISSIONER FOR PATENTS
Washington, D.C. 20231

SIR: Transmitted herewith is an Amendment for the above application.

 Small entity status of this application under 37 C.F.R. §§ 1.9 and 1.27 has been established by a verified statement previously submitted.

 A verified statement to establish small entity status under 37 C.F.R. §§ 1.9 and 1.27 is enclosed.

 X No additional fee is required.

The fee has been calculated as shown below:

	(Col. 1)		(Col. 2)	(Col. 3)
	Claims Remaining After Amd.		Highest No. Previously Paid For	Present Extra
Total Claims	* 16	Minus	** 16	0
Indep. Claims	* 2	Minus	*** 2	0
<div><input type="checkbox"/> First Presentation of Multiple Dependent Claim(s)</div>				

* If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3.

** If the "Highest No. Previously Paid For" IN THIS SPACE is less than 20, write "20" in this space.

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X42	\$
+140	\$
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_____ A check in the amount of \$ _____ is attached for presentation of additional claim(s).
_____ Applicant(s) hereby Petition(s) for an Extension of Time of _____ month(s) pursuant to
37 C.F.R. § 1.136(a).

_____ A check for \$ _____ is attached for processing fees under 37 C.F.R. § 1.17.

_____ Please charge my Deposit Account No. 02-2666 the amount of \$ _____.

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X The Commissioner of Patents and Trademarks is hereby authorized to charge payment of the
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X Any additional filing fees required under 37 C.F.R. § 1.16 for presentation of
extra claims.

_____ Any extension or petition fees under 37 C.F.R. § 1.17.

BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP

Date: 4-11-03

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